

REMARKS

Claims 5, 10-12, 62-65, and 77-138 were withdrawn from the application. Claims 1-4, 6-9, 13-61, 66-76, and 139-150 are presently pending in the application.

Confirmation of Election

Applicant confirms the provisional election of polymer repeating unit XI of claim 1 and polarizable ligand 17 of claim 26. The claims readable on the elected species are claims 1-4, 6-9, 13-61, 66-76, and 139-150. Applicant acknowledges the Examiner's statement that applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all of the limitations of an allowed claim as provided under 37 CFR § 1.141.

Priority

In the Office action, the Examiner indicated that while applicant's claim for domestic priority under 35 U.S.C. § 119(e) is acknowledged, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. § 112 for claims 2-150 of the application. The Examiner states that the provisional application is not exactly the same as the non-provisional application, which the applicant is seeking the benefit of domestic.

Applicant's undersigned attorney appreciates the time taken by the Examiner during a telephone interview during which the priority issue was discussed. Applicant's attorney respectfully acknowledges the Examiner's conclusion that his statement regarding priority was incorrect and would be deleted from the Office action. Applicant understands that the claim for domestic priority under 35 U.S.C. § 119(e) has been approved.

Information Disclosure Statement

In paragraph 5 of the Office action, the Examiner indicated that the Information Disclosure Statements filed on June 12, 2001 and February 20, 2002 fail to comply with 37 CFR § 1.98(a)(2) which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The Examiner indicated that applicant has not submitted

the publication entitled "Electroluminescent Material" by Blasse et al., Chapter 5, 1994, Springer-Verlag, which is listed on page 19 of the specification.

Applicant submits herewith a Supplemental Information Disclosure Statement listing references known to the applicant, as well as the "Electroluminescent Material" publication.

Specification

In paragraph 7 of the Office action, the Examiner provides a reminder regarding the proper language and format for the abstract of the disclosure; that the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is further indicated that the form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided, that the abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details, and that the language of the abstract should be clear and concise and should not repeat information given in the title.

Applicant submits that the abstract submitted with the application meets the requirements set forth by the Examiner.

Claim Objections

Claims 9 and 40 are objected to under 37 CFR 1.75 as being duplicates of claims 3 and 18, respectively.

Claim 9 has been amended to depend from claim 2, and claim 18 has been amended to depend from claim 17. Applicant submits that as a result of the amendments made to claims 9 and 18, they are no longer duplicates of claims 3 and 40. Applicant respectfully requests that the objection to claims 40 and 9 be withdrawn.

Claim 67 is objected to because of a typographical error where the word "composition" was misspelled. Claim 67 has been amended to correct the spelling error. Applicant respectfully requests that the objection to claim 67 be withdrawn.

Claim 109 is objected to because of what appears to be a typographical error in that claim 109 should be dependent on claim 108 and not claim 118. Claim 109 has been withdrawn by this amendment. Applicant respectfully requests that the objection to claim 109 be withdrawn.

Claim Rejections - 35 U.S.C. § 112

Claims 26 and 141 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner based his rejection on his allegation that claims 26 and 141 are rendered indefinite because they do not define the R and the subscripts "m," "n," "o," "p," "q," "r," and "s" for the polarizable ligands that have R_{m-s} .

Claim 1 has been amended to add the phrase "S is 0-8." This revision is supported, for example, at page 11, lines 29 and 30, where it is stated that "two of the R groups may be bridging, m is 0-2, . . . R is 0-7, and S is 0-8."

Applicant respectfully traverses the rejection of claim 26.

Claim 26 depends from claim 25 which depends from claim 1. The subscripts "m," "n," "o," "p," "q," "r," and "s" are clearly defined in claim 1. The R groups and subscripts are therefore defined in claim 26.

In view of the foregoing, applicant respectfully solicits removal of the § 112 rejection of claim 26.

Applicant respectfully traverses the rejection of claim 141.

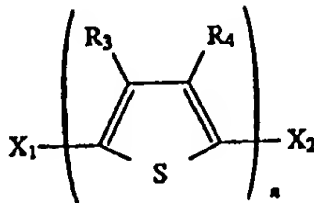
Claim 141 has been amended to specifically define the R groups as well as the subscripts "m," "n," "o," "p," "q," "r," and "s."

In view of the foregoing, applicant submits that claim 141 meets all of the requirements of § 112 and respectfully requests that the § 112 rejection of claim 141 be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 1-3, 7-9, 17, 18, 21-24, 30, 32-34, 42-55, 57-59, and 66-75 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 5,540,999) in view of Aziz et al. (U.S. Patent No. 6,392,250).

The Examiner based the rejection on his allegation that Yamamoto discloses an electroluminescent element comprising at least one layer comprising a thiophene polymer or copolymer comprising the structural unit as shown below:



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The Examiner states that the Yamamoto reference discloses that the copolymer can be random, alternate or a block copolymer, as per claims 30, 32, and 33, and that the electroluminescent element comprises a glass substrate having an indium tin oxide anode, one or more charge transport materials comprising tris(8-quinolinolato)aluminum and N,N'-bis(m-methylphenyl)-N,N"-diphenyl-1,1'-biphenyl 4,4'-diamine, an electroluminescent layer comprising a polythiophene copolymer and a second electrode (cathode) as per claims 42-49 and 66-74).

The Examiner goes on to state that while the Yamamoto reference discloses using other luminescent materials, Yamamoto does not disclose luminescent metal ions or luminescent metal ion complexes in the polymer composition as per claims 1, 2, 7, 8, and 17. To cure this deficiency in the Yamamoto reference, the Examiner alleges that the Aziz reference teaches an organic light-emitting device comprising polymers such as polythiophene with a lanthanide metal chelate dopant such as tris(acetylacetonato)(phenanthroline) terbium or tris(2-phenylpyridine) iridium, and that it would have been obvious to one of ordinary skill in the art to use a lanthanide metal chelate complex or luminescent metal ions/complexes as the dopant in the Yamamoto reference in order to provide various emission colors and increased electroluminescence efficiency from the organic light-emitting device as shown by Aziz in Col. 3:11-50.

This rejection is respectfully traversed.

While the Aziz reference relates to electroluminescent (EL) devices comprising a mixed hole-transport (HT)/electron-transport (ET) region, polythiophene is used only as an anode, not an HT or ET layer. This is disclosed in the Aziz reference where it is stated as follows:

The anode 34, 134 formed on the substrate 32, 132 can comprise suitable positive charge injecting electrodes such as indium tin oxide (ITO), tin oxide, gold and platinum. Other suitable materials for the anode include, but are not limited to, electrically conductive carbon, π -conjugated polymers such as polyaniline, polythiophene, polypyrrole, and the like having, for example, a work function equal to, or greater than, about 4 eV, and preferably from about 4 eV to about 6 eV. [Col. 7:52-61] [Emphasis added]

Applicant submits that there is no disclosure or suggestion that polythiophene may be used as an HT, ET, or luminescent material or layer. Although the Aziz reference does list

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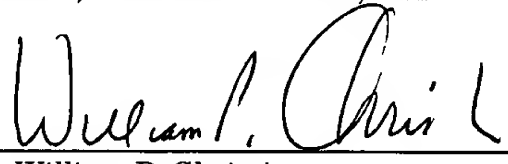
lanthanide metal chelate dopants, there is no teaching that these dopants may be used with a polymer matrix in general or with a polythiophene polymer in particular.

Applicant submits that the disclosure or teaching of the Yamamoto reference, taken alone or in combination with the teaching of the Aziz reference, does not in any way render any of applicant's claims obvious under 35 U.S.C. § 103. Applicant respectfully requests that the rejection be withdrawn.

In view of the foregoing, applicant submits that claims 1-4, 6-9, 13-61, 66-76, and 139-150 are in condition for allowance, and allowance is respectfully solicited.

Respectfully submitted,

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WPC/mlm

Enclosure: Supplemental IDS (with references)

MLM IRV1063707.1.*-3/25/03 11:07 AM